



# *Design Principles*

Chapter 4:  
Scale/Proportion

# Introduction



## Scale vs. Proportion:

- *Scale* = Size 
- *Proportion* = relative size, the size of an object as measured in comparison to another object or against some mental norm or standard.

(The term proportion is often used with math and ratios.)



A Richard Roth. Untitled. 1983. Installation: 11.1 diameter (3.4 m) sphere with red stool. ↗ 1993 Richard Roth. Photo: Fredrik Marsh and Donors. c. late 1440s. Altarpiece from the church of the Villa Alessandri, Vincigliata Fiesole, central panel

# Using Scale and Proportion for Emphasis



- Large scale can make for a very obvious focal point, or create visual emphasis.



*Montage* = a dramatic juxtaposition in scale.



- You can do this with a cut and paste of photographs, or with digital images.

*Hieratic Scaling* = in art history, visual scale (how big something is in a painting) was often directly related to the importance of the subject.

For Example: A King, Jesus, or the Pope would be bigger than surrounding people.



C Fra Filippo Lippi. Saint Lawrence Enthroned with Saints and Donors. c. late 1440s. Altarpiece from the church of the Villa Alessandri, Vincigliata Fiesole, central panel only. Tempera on wood, gold ground; overall, with added strips: 31 11 3/4 x 31 9 1/2 (121.3 115.6 cm). The Metropolitan Museum of Art, New York (Rogers Fund, 1935, 35.31.1a).

# Scale of Art



## Human Scale Reference



“One way to think of artistic scale is to consider the scale of the work itself, its size in relation to other art, in relation to its surroundings, or in relation to human size.”



*Fresco* - A mural painting technique in which pigments mixed in water are used to form the desired color. These pigments are then applied to wet lime plaster, thereby binding with and becoming an integral part of a wall.



# The Power of Unusual Scale



## Large Artworks



- Size can be impressive

“Unusual or unexpected scale is arresting and attention-getting.”

“Naturalistic images blown up to monumental scale cannot be ignored, and they alter the urban environment.”





# Context



*Earthworks* = Mounding dirt to create an image over large areas.



- They are unique in the grandeur of their scale.
- Can only be experienced fully from high up,



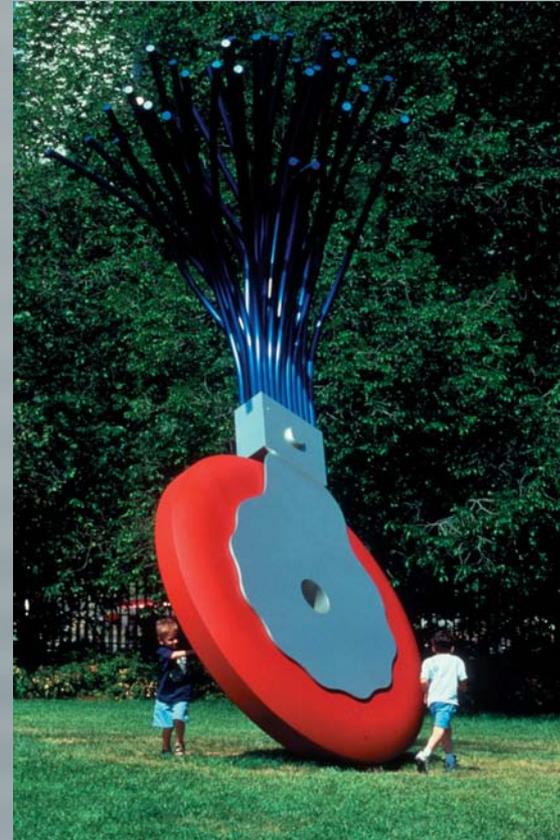
\* See also Andrew Goldsworthy.



# Large Scale Sculpture Example...



“As with the work of other pop artists, this piece calls attention to an everyday object not previously considered worthy of aesthetic consideration. Oldenburg transforms the object by elevating it to a monumental scale. A magnification such as this allows us to see the form with fresh eyes, and, as a result, we might discover new associations, such as the graceful strands of the brush, which project upward like a fountain.”



B Claes Oldenburg and Coosje van Bruggen. Typewriter Eraser, Scale X. 1999. Stainless steel and cement, approximately 20.1 tall. National Gallery of Art, Sculpture Garden, Washington, D.C. (gift of The Morris and Gwendolyn Cafritz Foundation, 1998.150.1). D The Anti-Advertising Agency. Some Kid. PDF submission of proposed billboard

# Scale Within Art



## Internal Proportions

→ You can also consider the scale of objects in relation to one another inside of the composition.

(Also known as *Proportion*.)

- Regular placement and geometric repeating elements give a feel of calm and quiet order.
- Large figures crowded together can impart a feeling of claustrophobia and chaos.
- When things are out of proportion it is “negative.”

(However, if this is the intent of the artist, they can use it to create a particular effect.)

# Using Scale to Effect



An artist can use scale and proportion to create an emotional effect in the viewer.  
Compare and Contrast these two images.



B Domenico Ghirlandaio. Last Supper. c. 1480. Fresco, 25 1/2" (64.5 cm) high, 8 m wide. San Marco, Florence.



C Emil Nolde. The Last Supper. 1909. Oil on canvas, 2 1/2" x 10 5/8" (63.5 x 270.5 cm). Statens Museum for Kunst, Copenhagen.

# Unexpected or Exaggerated Scale



## Contrast of Scale



- Scale can be used to draw notice to the unexpected or exaggerated.  
(A sudden change in scale surprises us and gets our attention.)
- Large and small scale can be combined for dramatic contrast and visual interest.

# Scale Confusion



## Surrealism and Fantasy

→ Often used change of scale

*Surrealism*—an art form based on paradoxes; images that cannot be explained in rational terms.

→ Magritte called surrealism a “crisis of the object”.

→ In other words the viewer has to stop and think of the object and what they know and expect about that object.

*Enigma* – a mystery or unknown.



A Rene Magritte. Personal Values (Les Valeurs Personnelles). 1952.  
Oil on canvas, 21 7 1/2" x 31 3 3/8" (80.01 100.01 cm).

# Proportion



## Notions of the Ideal

- Proportion is linked to ratio.
- Proportion is  $\text{Width} / \text{Height} = \%$
- The average adult is 7 and 1/2 heads tall.
- Average model and fashion illustration is 10 heads tall.
  - Beauty is Subjective 
  - (*Subjective* - Reflecting a personal bias.)

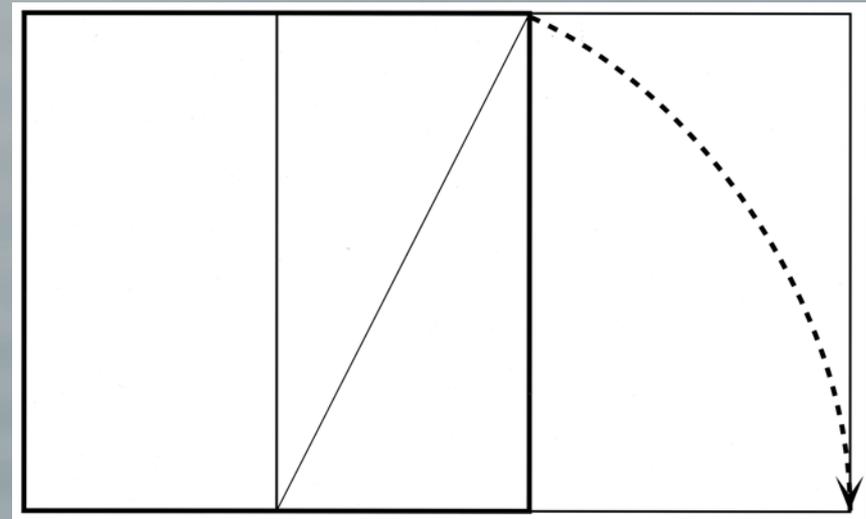


# *Finding the Golden Rectangle*

**Golden Rectangle** - Width is to length as length is to length plus width

$$(w:1 \text{ as } l:l + w)$$

- Influenced art throughout the ages
- Found in natural growth patterns. Trees, shells, etc...
- Use in the creation of the Parthenon.



A golden rectangle can be created by rotating the diagonal of the half-square.

# The Golden Rectangle continued...



*Golden Mean* – The ratio of the golden rectangle.

The ratio of the golden mean can be found in the Fibonacci Sequence.

## *Fibonacci Sequence*

A counting sequence in which each new number is the sum of the previous 2.

1, 1, 2, 3, 5, 8, 13, 21, 34,...

# The Golden Mean - 3:5 Ratio



- You can find numerous examples of these proportions in nature, the human body, and design.
- We see this 3:5 ratio expressed in music (harmonies of thirds, fifths, and octaves).
- And we find it in growth patterns in nature.
- In art, the 3:5 proportion is well suited to figure and landscape paintings.



C George Inness. View of the Tiber near Perugia. 1872-1874. Oil on canvas, 3' 2 9/16" 5' 3 9/16" (98 161.5 cm). National Gallery of Art, Washington, D.C. (Ailsa Mellon Bruce Fund, 1973.16.1).

# Exploring Roots in Art and Design



Root Rectangles are derived from the square.

Examples of root rectangles include; Root 2, Root 3 and Root 5.

- Roots offer artist new methods for exploration.
- Roots often result in agreeable proportions. (They look nice.)

*Façade* - The face or frontal aspect of a form.



B. The Tribute Money. c. 1427. Fresco, 8' 4" 19' 8" (2.54 5.99 m).  
Santa Maria del Carmine, Florence, Italy.